

## CLAIMS

1. A disease susceptibility gene for rheumatoid arthritis, the gene coding a protein that has an amino acid sequence shown in SEQ. ID NO.1 and that has such mutation that glycine is inserted as a 269th amino acid in the sequence.

2. The gene as set forth in Claim 1, having a base sequence shown in SEQ. ID NO. 2, and having such mutation that 3 bases "GGT" are inserted as 805th to 807th bases in the sequence.

3. A protein having an amino acid sequence shown in SEQ. ID NO.1, and having such mutation that glycine is inserted as a 269th amino acid in the sequence.

4. A method of evaluating onset or onset possibility of rheumatoid arthritis, the method comprising the step of:

detecting whether mutation of the gene as set forth in Claim 1 or 2 occurs or not.

5. A method of evaluating onset or onset possibility of rheumatoid arthritis, the method comprising the step

of:

detecting whether mutation of the protein as set forth in Claim 3 occurs or not.

6. An evaluation kit for evaluating onset or onset possibility of rheumatoid arthritis by using the method as set forth in Claim 4 or 5, the method detecting whether mutation occurs or not.

7. A method of evaluating onset or onset possibility of rheumatoid arthritis, comprising the step of:

measuring an amount of an expressed mRNA derived from a disease susceptibility gene for rheumatoid arthritis, the gene having a base sequence that is as shown in SEQ. ID NO.2 but deleted of 3 bases "GGT", which are Nos.805 to 807 bases in the sequence.

8. The method of evaluating onset or onset possibility of rheumatoid arthritis, as set forth in Claim 7, wherein:

a pair of threshold values 1 and 2 is set with respect to the amount of the expressed mRNA, the threshold value  $1 < \text{the threshold value } 2$ ;

if the amount of the expressed mRNA is equal to or less than the threshold value 1, it is judged that a subject

has developed rheumatoid arthritis highly possibly or has a high possibility that the subject will develop rheumatoid arthritis in the future; and

if the amount of the expressed mRNA is equal to or more than the threshold value 2, it is judged that a subject has developed rheumatoid arthritis unlikely or has a low possibility that the subject will develop rheumatoid arthritis in the future.

9. A remedy for rheumatoid arthritis, comprising the steps of:

supplementing, to a rheumatoid arthritis patient having a protein having the mutation as set forth in Claim 3, (a) a normal type protein not having the mutation, (b) DNA coding the normal type protein, or (c) a low molecular weight compound that acts as an agonist for a receptor protein for which the normal protein is a ligand.

10. A curing medicine for use in curing a rheumatoid arthritis patient having a protein having the mutation as set forth in Claim 3, the curing medicine containing, as a main component (a) a normal type protein not having the mutation, (b) DNA coding the normal type protein, or (c) a low molecular weight compound that acts as an agonist for a receptor protein for which the normal protein is a

ligand.